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DO COMMON FOOD PLANTS CONTAIN INSECTICIDAL CONSTITUENTS?

Dr. N. E. McIndoo is now using potato-beetle larvae, aphids, fall webworms, and silkworm larvae in determining whether or not certain common plants contain insecticidal constituents. This work is carried on cooperatively between the Bureaus of Entomology and Plant Industry. Mr. A. F. Sievers, chemical biologist of the Bureau of Plant Industry, prepares the extracts and powders from the plants suspected of containing toxic principles and Dr. McIndoo applies these substances in the various ways in which known insecticides are used. Some of the field men are rendering great aid by collecting and sending in plants which are supposed to contain poisonous substances.

This cooperation is fully appreciated and it is hoped that the field men of other divisions will collect any supposed poisonous plants, in the regions in which they may be located, and transmit them to Dr. A. L. Quaintance, at the Bureau of Entomology, with any incidental information which may be of value concerning them.

TULANE UNIVERSITY HONORS WALTER DAVID HUNTER.

On June 7, 1916, Tulane University conferred the degree of Doctor of Laws upon W. D. Hunter, in Charge of Southern Field Crop Insect Investigations, of the Bureau of Entomology.

Dr. W. D. Hunter, in Charge of Southern Field Crop Insect Investigations, is in receipt of the following letter from Dr. Howard.

Dear Dr. Hunter:

* * * I have been visiting a number of field stations, beginning with the one at Falls Church, Va., before I left Washington on my long trip, and here and there, as in previous field trips to field laboratories, I find a considerable diversity in breeding cages and other instruments and methods, which, although depending for their diversity to a certain extent upon the different kinds of insects being handled, are also different in accordance with the comparative ingenuity of the individual workers. Now, naturally, very few men have the opportunity to visit other field stations, or, at all events, field stations of sections of the Bureau other than their own. It results, therefore, that it is desirable that knowledge of these different ideas should become general throughout the Bureau, and I think that it should be urged upon all field workers that when they have found some new rearing device, or some modification of an old one, which upon sufficient test proves to have decided advantages, it should be photographed and clearly described and sent in to headquarters in Washington. Then if it can be described sufficiently in the Monthly Letter without illustrations, this can be done for the benefit of all workers in the field. If illustrations are needed, a circular can be prepared, which can be presented, not only to our field workers in the Bureau, but to others. (Signed) L. O. Howard, Pasadena, Cal., June 21, 1916.

OF INTEREST TO FIELD EMPLOYEES.

Mr. W. R. Walton, Acting in Charge of Cereal and Forage Insect Investigations, has made the following request of field men under his supervision:

"A circular letter has recently been sent to all heads of field stations in this branch asking for their hearty cooperation in using the Bureau Monthly Letter in relation to insects under investigation. It is the wish of Doctor Howard that the men take this proposal up as promptly as possible."

It is peculiarly fitting that this statement should come from Mr. Walton, and that the office of Cereal and Forage Investigations should use this medium of interchange of ideas, as the "News Letter," as it was then styled, originated with the late Prof. F. M. Webster, who saw in it a valuable factor for the advancement of entomological research work and closer cooperation. It is hoped that larger interest will be stimulated and that contributions will be forthcoming from all the field stations of the Bureau.

(Contributions for each current month should be forwarded to the chief of each branch in order to insure arrival not later than the 25th of the month, to expedite the issuing of the Monthly Letter promptly on the first of the new month following. B. A. R.)

SCALE INSECTS WANTED.

A. T. Speare is very anxious to obtain scale insects of the Genus Lecanium, or its near relatives, that are parasitized by fungi, and specimens of this insect from any host plant will be gratefully received. (Address: A. T. Speare, Bureau of Entomology, Washington, D. C.)

NEWS IN GENERAL.

Dr. Howard left Washington on June 5 for a trip of about six weeks duration to the Southern and Western field Laboratories.

A. W. J. Pomeroy, who is now a captain in the third Nigerian Regiment, is in this country for a short time on leave. He is to return to active service in British West Africa on July 26.

W. F. Fiske, who is now in London, has written that he will be in the United States on the 15th of July.

August Busck has been granted leave of absence to make a short visit to his old home in Denmark.

Dr. C. H. T. Townsend will start on an extensive collecting trip in New Mexico soon after the first of July. He will be accompanied by Carl Heinrich.

It seems altogether likely at this time (June 26) that the appropriation act for the coming fiscal year will not be passed by Congress until some time after the first of July. In all probability the current appropriations will be continued under a joint resolution similar to that which was in effect in 1912, when the appropriation bill was not passed until August. If the bill should not be passed by July 1, the amount of money available for expenses will be greatly limited. Full instructions to field men will be issued in a special announcement if it becomes necessary.

REPORT OF THE EDITORIAL SECTION, BUREAU OF ENTOMOLOGY,
FOR THE YEAR ENDED JUNE 30, 1916.

	Issued.	In Press. ¹	In Manuscript.
Department Bulletins.....	25	18	4
Farmers' Bulletins.....	21	7	2
Contributions: Jr. Agr. Res.	19	6	0
Bulletins, Bureau Entomology.....	0	4 ²	0
Tech. Series, Entomology.....	0	0	4 ³
Office of Secretary: Circulars.....	2	0	0
" " " Reports.....	1	1	0
Yearbook Articles.....	1	0	2
Report of the Entomologist.....	1	0	0
Monthly Letters: Bur. Ent.	3 ⁴	0	0
Unnumbered Publications.....	<u>1</u>	<u>0</u>	<u>0</u>
	74	36	12

Footnote 1:-Sent to Division of Publications.

2:-Contents and Indices.

3:-Contents and Indices.

4:-Twelve numbers issued per annum.

The three noted were printed at the G. P. O.

Balance each month are flexotyped.

Total publications issued during the fiscal year 1915-16.....	74
Total publications left in press and at Div. Pubs.	36
Total manuscripts on hand close of June 1916.....	<u>12</u>
Total publications handled during 1915-1916.....	122

Comparative statement of publications issued by the Bureau of Entomology during the years 1908 to 1916, inclusive:

Fiscal year 1908-09....	33	Fiscal year 1912-13....	81
1909-10....	53	1913-14....	34
1910-11....	75	1914-15....	78
1911-12....	55	1915-16....	74

(Note: Owing to the fact that the printing fund was depleted in March 1916, fully 20 publications have been suspended which ordinarily would have been issued.
B. A. R.)

APPORTIONMENT OF PUBLICATIONS, ISSUED DURING THE FISCAL YEAR 1915-16,
AMONG THE OFFICES OF THE BUREAU OF ENTOMOLOGY.

	Dept. Bull.	Farm. Bull.	Jr.Agr. Res.	R.Off. Secty.	C.Off. Secty.	Ybk.	UnN.
Chief of Bureau	0	1	0	0	0	0	1
Tropical & Subtropical							
Fruit Insect Invest.	1	2	3	0	0	0	0
Southern Field Crop							
Insect Investigations.	7	3	3	0	0	0	1
Deciduous Fruit Insect							
Investigations	7	3	5	0	0	0	0
Forest Insect Invest.	4	0	2	0	0	0	0
Bee Culture Invest.	0	1	0	0	0	0	0
Truck Crop & Stored Prod.							
Insect Investigations.	1	6	2	0	0	0	0
Gipsy & Brown-tail Moth							
Investigations.	3	0	0	0	0	0	0
Cereal & Forage Insect							
Investigations.	2	0	4	0	2	1	0
Nathan Banks: Acarina	0	0	0	1	0	0	0

Note: Dr. L. O. Howard is collaborator in 4 of the 6 Farmers' Bulletins credited to Truck Crops.

Dr. A. L. Quaintance collaborated in 1 of the Farmers' Bulletins credited to Truck Crops.

DEPARTMENT BULLETINS.

Number	Title	Author	Issued
231	Recent studies of the Mexican cotton boll weevil.	B.R.Coad	August 2, 1915.
243	Cone beetles: Injury to sugar pine and Western yellow pine.	J.M.Miller	July 24, 1915.
245	Further experiments in the destruction of fly larvae in horse manure.	Cook, Hutchi-son & Scales	July 20, 1915.
248	Fleas.	F.C.Bishopp	Aug. 14, 1915.
250	Food plants of the gipsy moth in America	F.H.Mosher	July 24, 1915.
251	The Calosoma beetle in New England.	A.F.Burgess & C.W.Collins	July 27, 1915.
252	Life history of the codling moth in Maine.	E.H.Siegler & F.L.Simanton	Aug. 10, 1915.
255	Douglas fir pitch moth.	Josef Brunner	July 22, 1915.
256	Katyids injurious to oranges in California.	J.R.Horton & C.E.Pemberton	July 27, 1915.
261	American plum borer.	E.K.Blakeslee	July 19, 1915.
262	The parandra borer as an orchard enemy.	F.E.Brooks	July 19, 1915.
263	The cranberry rootworm.	N.B.Scammell	July 19, 1915.
273	Dispersion of gipsy-moth larvae by the wind.	C.W.Collins	August 24, 1915.
276	The pea aphid with relation to forage crops.	J.J.Davis	Sept. 29, 1915.

278	Miscellaneous insecticide investigations.	E.W.Scott & E.H.Siegler	Oct. 5, 1915.
293	The grasshopper outbreak in New Mexico during the summer of 1913.	H.E.Smith	Oct. 7, 1915.
295	The Zimmerman pine moth.	Josef Brunner	Oct. 28, 1915.
329	Notes on five North American buffalo gnats of the genus Simulium.	A.W.J.Pomeroy	March 6, 1916.
333	Termites or white ants in the U.S.	T.E.Snyder	Febr. 16, 1916.
344	Studies on the biology of the Arizona wild cotton weevil.	B.R.Coad	Jan. 18, 1916.
351	The terrapin scale.	F.L.Simanton	April 22, 1916.
352	The cherry leaf beetle.	R.A.Cushman & D.Isely	May 5, 1916.
358	Studies of the Mexican cotton boll weevil in the Mississippi Valley.	R.W.Howe	April 12, 1916.
363	The pink corn worm.	F.H.Chittenden	May 8, 1916.

FARMERS' BULLETINS.

Number	Title	Author	Issued
674	Control of the citrus thrips in California and Arizona.	J.R.Horton	July 8, 1915.
675	The roundheaded apple-tree borer.	F.E.Brooks	July 6, 1915.
679	House flies.	L.O.Howard & R.H.Hutchison	July 14, 1915.
681	The silverfish.	C.L.Marlatt	July 14, 1915.
683	Fleas as pests to man and animals.	F.C.Bishopp	Nov. 8, 1915.
691	Grasshoppers and their control on sugar beets and truck crops.	F.B.Milliken	Nov. 11, 1915.
695	Outdoor wintering of bees.	E.F.Phillips & G.S.Demuth	Oct. 12, 1915.
699	Hydrocyanic-acid gas against household insects.	L.O.Howard & C.H.Popenoe	April 5, 1916.
701	The bagworm.	L.O.Howard & F.H.Chittenden	Jan. 15, 1916.
705	The catalpa sphinx.	L.O.Howard & F.H.Chittenden	Feb. 16, 1916.
708	The leopard moth.	L.O.Howard & F.H.Chittenden	Feb. 14, 1916.
721	The rose-chafer.	F.H.Chittenden & A.L.Quaintance	April 28, 1916.
722	The leaf blister mite.	A.L.Quaintance	April 21, 1916.
723	The oyster-shell scale and scurfy scale.	A.L.Quaintance & E.R.Sasscer	April 26, 1916.
725	Wireworms destructive to cereal and forage crops.	J.A.Hyslop	April 29, 1916.
731	The true armyworm and its control.	W.R.Walton	May 23, 1916.
733	The corn and cotton wireworm.	E.H.Gibson	June 9, 1916.
734	Flytraps and their operation.	F.C.Bishopp	June 10, 1916.

735	The red spider on cotton and control.	E.A.McGregor	June 12,1916.
737	The clover leafhopper and its control.	E.H.Gibson	June 26,1916.
739	Cutworms and their control in corn and other cereal crops.	W.R.Walton & J.J.Davis	June 1,1916.

JOURNAL OF AGRICULTURAL RESEARCH.

Number	Title	Author	Issued
K-19	Asparagus beetle egg parasite.	F.A.Johnston	July 5,1915.
K-20	Further studies of the embryology of <i>Toxoptera graminum</i>	W.J.Phillips	Aug. 16,1915.
K-21	Biology of <i>Apanteles militaris</i> .	D.G.Tower	Dec. 20,1915.
K-22	Effect of cold-storage temperatures upon the Med. Fruit fly.	E.A.Back & C.E.Pemberton	Jan. 10,1916.
K-23	Banana as a host fruit of the Mediterranean fruit fly.	E.A.Back & C.E.Pemberton	Jan. 24,1916.
K-24	Life-history studies of the Colorado potato beetle.	P.M.Johnson & A.M.Ballinger	Feb. 14,1916.
K-25	Morphology and biology of the green apple aphid.	A.C.Baker & W.F.Turner	Feb. 21,1916.
K-26	Identity of <i>Eriosoma pyri</i> .	A.C.Baker	March 6,1916.
K-27	A new interpretation of the relationships of temperature and humidity to insect development.	W.D.Pierce	March 20,1916.
K-28	Oviposition of <i>Megastigmus spermatrophus</i> in the seed of Douglas fir.	J.M.Miller	April 10,1916.
K-29	Insect injury to cotton seedlings.	B.R.Coad & R.W.Howe	April 17,1916.
K-30	<i>Hyperaspis binotata</i> , A predatory enemy of the terrapin scale.	F.L.Simanton	May 1,1916.
K-31	Effect of cold-storage temperatures upon the pupae of the Mediterranean fruit fly.	E.A.Back & C.E.Pemberton	May 15,1916.
K-32	Egg and manner of oviposition of <i>Lyctus flavicollis</i> .	T.E.Snyder	May 15,1916.
K-33	Woolly pear aphid.	A.C.Baker & W.M.Davidson	June 5,1916.
K-34	Life histories and methods of rearing Hessian fly parasites.	C.M.Packard	June 5,1916.
K-35	Effect of Roentgen rays on the tobacco or cigarette beetle.	G.A.Runner	June 12,1916.
K-36	Comparative study of the amount of food eaten by parasitized and nonparasitized larvae of <i>Cirphis unipuncta</i> .	D.G.Tower	June 19,1916.
K-37	Aleyrodidae or white flies attacking the orange, etc.	A.L.Quaintance & A.C.Baker	June 19,1916.

MISCELLANEOUS PUBLICATIONS ISSUED.

Office of the Secretary.

Number	Title	Author	Issued
Cir.51.	Off.Secty. The Hessian fly.	F.M.Webster &	
55, "	" The spring grain aphid.	E.O.G.Kelly	July 2,1915.
Rept.108 "	" The Acarina or Mites.	F.M.Webster	Feb. 5,1916.
		Nathan Banks	Dec. 15,1915.

Yearbook.

Yearbook Article. Recent grasshopper outbreaks and latest methods of controlling them. F.M.Webster July 1,1916.

Entomologist Report.

Report of the Entomologist for the Fiscal Year ended June 30, 1916.

Unnumbered Publications.

Spread of the cotton boll weevil during 1915.....January 1, 1916.

Monthly Letters.

The issues for July, August and September were printed at the Government Printing Office.

Since September 1915, the Monthly Letter has been flexotyped.

LIBRARY.

Miss Mabel Colcord, Librarian.

NEW BOOKS.

Delacroix, G. and Maublanc, A. Maladies des plantes cultivees, maladies parasitaires. Paris, 1916. 447p. illus.

Ectoparasites, edited by K. Jordan and N. Charles Rothschild. v.1, pt.1, Dec. 30, 1915. 60p.

Ferris, G. F. Catalogue and host list of the Anoplura. (In Cal. acad. sci. Proc. ser. 4, v.6, no.6, p.129-213, May 12, 1916)

Hawaiian Sugar Planters' Association. A general index to the complete twenty-eight volumes of the Hawaiian planters' monthly, the first eleven volumes of the Hawaiian planters' record, the bulletins and circulars of the Experiment Station of the Hawaiian Sugar Planters' Association. Complete to January 1, 1915. Compiled ... by H. B. Campbell. Honolulu, 1915. 283p.

Hawaiian Sugar Planters' Association-Experiment Station. The relation of applied science to sugar production in Hawaii. Honolulu, Oct. 1915. 84p. illus.

Imms, A. D. Observations on the insect parasites of some Coccidae. (In Quar. jour.micr. sci. v.61, pt.3, p. 217-274, illus., fold.pl. 19-20, March, 1916. Bibliography, p. 270-272)

India, Bengal Dept. of Agriculture. Annual reports of the expert officers January 30, 1915. Calcutta, 1915. Includes reports by T. B. Fletcher, Entomologist, F. J. F. Shaw, Mycologist, P. C. Sen, Entomological collector and A. L. Sen, Mycological collector; also information on sericulture.

India, Mysore Dept. of Agriculture. Short report of a tour made in Coorg during February and March, 1914. [Leslie Coleman, Director of agriculture] May 16, 1914. 8p.

Jarvis, Edmund. Notes on insects damaging sugar-cane in Queensland, Brisbane, 1916. 48p. (Queensland Bureau of sugar experiment stations. Division of Entomology. Bul.3)

McGregor, C. H. Birds in their economic relation to man. (Philippine Islands. Bureau of science. Press bulletin 32 rev. Dec. 29, 1915.)

Mangin, Louis. Parasites vegetaux des plantes cultivees. Paris, 1914. 159p. illus. (Librairie agricole de la Maison rustique)

Massee, George. Diseases of cultivated plants and trees. ed.2, 1915. 502p. illus.

Mulsant, Etienne. Opuscules entomologiques. Paris, 1852-1873. 16 cahiers in 8 vols.

Sapporo, Japan: Hokkaido Agr. Exp. Sta. Report 6. March, 1916. I. Experiments on the prevention of the apple worm. II. Studies on the oyster shell scale on apple trees, and experiments on its prevention, by H. Okamoto.

Van Duzee, E. P. Monograph of the North American species of Orthotylus (Hemiptera) (In Cal. Acad. Sci. Proc. ser. 4, v.6, no.5, p. 87-128, illus. May 8, 1916)

Van Duzee, E. P. Synoptical keys to the genera of the North American Miridae. (Cal. Univ. Pub. Tech. Bul. Coll. Agr. Agr. Exp. Sta. Entomology. v.1, no.3, p. 199-216, Feb. 1916)

Vermorel, V. and Dantony, E. La defense de nos jardins contre les insectes et les parasites. Villefranche-Montpellier, Paris, 1914. 232p. 12 col.pl.

BEE CULTURE.

E. F. Phillips, In Charge.

On the completion of his work in Fennville, Mich., mentioned in the last Monthly Letter, Mr. Geo. S. Demuth went to his former home at Peru, Ind., where he will remain until about July 1st.

Dr. E. F. Phillips was absent on leave from June 8 to 17.

CEREAL AND FORAGE INSECT INVESTIGATIONS.

W. R. Walton, Acting in Charge.

Mr. Caffrey, of the Maxwell, N. Mex., station, reports an unusual scarcity of the larvae of *Hemileuca* this season. A long period of drought has apparently resulted in the prevention of the hatching of the eggs of the range caterpillar. Mr. Caffrey is having great difficulty in securing enough caterpillars to furnish food for rearings of the predaceous enemies of the range caterpillar. The heads of field stations of this branch are therefore asked to send to Mr. Caffrey lepidopterous larvae of any kind which may be used as food for *Calosoma* beetles or as hosts for Tachinid fly *Compsilura concinnata*. These larvae should be packed in such a way as to reach Mr. Caffrey alive and in as good condition as possible.

Mr. C. C. Hill, of the Knoxville, Tenn., field laboratory, recently visited Washington for the purpose of completing a manuscript. He returned to his field station June 23.

A circular letter has recently been sent to all heads of field stations in this branch asking for their hearty cooperation in using the Bureau News Letter in relation to insects under investigation. It is the wish of the Chief of the Bureau that the men take this proposal up as promptly as possible.

News Items from Tempe, Arizona.

Counts being made in alfalfa seed pods show in some cases as high as seventy percent of the seeds infested by *Bruchophagus funebris*.

Prodenia ornithogalli is becoming more and more of considerable importance as an alfalfa pest, and at the present time the second generation for this season is showing in considerable numbers upon that crop.

The alfalfa pod gall maker, *Asphondylia miki*, of which little is known, is more numerous this season than since the year 1912.

Grasshoppers are especially numerous throughout the southern part of Arizona, and a great many farmers are spending considerable time and money in attempting to poison them. Unfortunately Paris green is now quoted at eighty cents per pound at Tempe, Arizona, which makes this an expensive poison. Several experiments are being planned for using arsenate of lead and white arsenic as substitutes for Paris green in the poisoned mash.

Mr. F. H. Gates is on a trip to Yavapai County, making a search for *Hemileuca yavapai*, a species which has been reported from this section of Arizona for some years in the past, and is supposedly parasitized quite heavily. It is hoped to secure parasites from this species that may be of considerable benefit in the attempt to control the Range Caterpillar, *Hemileuca oliviae*, in northeastern New Mexico. [V. L. W.]

News Items from West Lafayette, Indiana.

The continued cold and wet conditions have prevented any extensive field work. Hessian-fly injury in southern Indiana and Illinois is very apparent everywhere.

Among the most conspicuous injuries occurring within the past few weeks is that by *Papaipema nitela*. A week ago it was found at Sheldon, Ill., damaging oats, wheat, corn and white sweet clover. At Winamac, Ind., it destroyed 10 per cent of a field of rye. It seems prevalent in Indiana and Illinois.

To the present date no white grub or wireworm injuries have been reported which might be expected from the weather conditions the past month.

Larvae of *Noctua c-nigrum* damaged corn in northern Indiana in early June.

Larvae of *Euxoa* spp. have damaged various crops, especially corn, in parts of our territory but have been conspicuous in the sandy regions at Napoleon and McClure, Ohio, Battle Creek, Mich., etc.

Sphenophorus spp. have caused damage to corn at Gaston, Ind., and in several localities in Ohio. Cutworms reported as injuring corn at Farmington, Michigan, proved to be webworms, although at the time of our visit most of the webworms had disappeared.

May beetles (*Lachnosterna* spp.) have been abundant and defoliated trees at Napoleon and Swanton, Ohio; Farmington, Battle Creek and East Leroy, Mich.; and Sheldon and Milford, Ill. (J. J. D.)

DECIDUOUS-FRUIT INSECT INVESTIGATIONS.

A. L. Quaintance, In Charge.

E. R. Selkregg, of the Massachusetts Agricultural College, has been appointed to assist H. G. Ingerson at Sandusky, Ohio, in grape berry-moth investigations.

James K. Primm, of the University of Illinois, has been appointed to assist D. Isely at North East, Pa., in grape-insect investigations.

F. E. Brooks, engaged in fruit-tree borer investigations, with headquarters at French Creek, W. Va., spent some time visiting apple orchards in the Northern States, making observations on fruit-tree borers.

Dr. A. L. Quaintance visited laboratories of the Bureau at Monticello and Orlando, Fla., as well as other points in Florida and Georgia, making observations on deciduous fruit insects.

FEDERAL HORTICULTURAL BOARD.

C. L. Marlatt, Chairman.

(In Cooperation with the Bureau of Entomology.)

The Clark Thread Company of Newark, N. J., has recently completed a fumigation plant for the disinfection of cotton. This plant is operating satisfactorily and is capable of disinfecting eighty Egyptian bales at each exposure.

The Vacuum Company of Boston is installing a fumigation plant at the Bush Terminal Company in Brooklyn, N. Y. It is said that this plant will be completed on June 26. Mr. H. H. Willis, who has been formerly located in Boston, has been transferred to New York to supervise the fumigation work conducted at the plant in Brooklyn.

R. I. Smith, who is in charge of the Federal Horticultural Board's office in Boston, reports that since March 10, 1916, something over 65,000,000 pounds of cotton have been disinfected by the two fumigation companies in that city.

An informal conference will be held by the Federal Horticultural Board in Washington on June 29 with importers and dealers in burlap or other fabric covered by Amendment No. 5 to the Rules and Regulations Governing the Importation of cotton into the United States.

H. L. Sanford recently collected what appears to be a new and undescribed

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species of *Aonida* on condurango pods from Ecuador. On April 1st he also intercepted *Parlatoria chinensis* on peach from northern China. This scale insect is a common and widespread species in northern China and represents a very undesirable importation.

FOREST INSECT INVESTIGATIONS

A. D. HOPKINS, In Charge.

Mr. S. A. Rohwer is anxious to get *Cimbex* larvae. He wants live material of large larvae with host, locality and other data. They should be sent to him in tin boxes stocked with food and addressed to East Falls Church, Va., Forest Insect Field Station.

Mr. W. S. Fisher has spent most of this month in the vicinity of Harrisburg, Pa., in continuation of his researches on the seasonal history of the hickory barkbeetle.

Mr. J. N. Knull, a graduate of Pennsylvania State College, was appointed May 1st as temporary field assistant and assigned to assist Mr. Craighead at East Falls Church, Va.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS

W. D. Hunter, In Charge.

An extension project has been started in cooperation with the South Carolina Agricultural College. The object of the work is to place the results of the recent investigations of the cotton wireworm in the possession of planters throughout the State. This is the first project of this kind which has been organized in the Bureau.

An important paper by W. V. King on the relation between three species of *Anopheles* and malaria appeared in the June issue of the *Journal of Experimental Medicine*.

W. D. Hunter visited the laboratories at New Orleans, Mound, Tallulah, and Dallas during the month. With Dr. Howard he attended the annual field meeting of the Louisiana Sugar Planters' Association at New Orleans on June 8.

An important publication by B. R. Coad on the results of recent experiments in the control of the boll weevil is about to be issued.

R. R. Parker, who was recently appointed a scientific assistant has been forced to decline for reasons connected with his family.

A. G. Davis, a student of Tulane University, has been appointed a temporary field assistant for service in connection with the shipment of parasites of the sugar-cane borer from Cuba to the laboratory at New Orleans.

TROPICAL AND SUBTROPICAL INSECT INVESTIGATIONS.

C. L. Marlatt, In Charge.

W. W. Yothers, in company with Messrs. W. J. Krome and L. S. Tenny, members of the Florida Plant Board, left Orlando on June 19 for a brief trip to Cuba to study the various insects infesting citrus on this Island. Enroute Mr. Yothers will stop off at various points on the Florida Keys to further investigate insects infesting limes.

G. F. Ferris, assistant in entomology at Stanford University, is temporarily located in Washington, D. C., and is devoting considerable time to the study of Coccidae with Harold Morrison.

Daniel G. Tower is temporarily located in Newark, N. J., supervising the fumigation of cotton at the plant recently erected by the Clark Thread Company.

A. D. Borden recently visited some large growers of greenhouse plants in Maryland, Pennsylvania, and New Jersey.

TRUCK CROP AND STORED PRODUCT INSECT INVESTIGATIONS.
F. H. Chittenden, In Charge.

The project for the investigation and control of insects as carriers or transmitters of the mosaic, wilt, and other diseases of cucumber and other cucurbits in the States of Michigan, Wisconsin, and Indiana, which has been outlined in cooperation with the Bureau of Plant Industry, is now completely organized and work is well under way. N. F. Howard, as announced in the May number, will be in charge of this line of investigations at Madison, Wisc.

James I. Hambleton, of the University of Wisconsin, has been appointed field assistant at the same Station.

F. A. Johnston is in charge of the experiment station for the same line of investigations at Big Rapids, Mich., his former headquarters at Hart, Mich., being retained as a substation.

Wm. N. Ankeney, from the Ohio State University, is field assistant at the same station.

H. K. Laramore, a graduate of Purdue University, formerly field assistant at Knox, Ind., where he was engaged in investigations on the onion thrips, will take charge of the pickle-disease insect-problem station at Plymouth, Ind.

A. H. Robinson has been appointed field assistant with headquarters at Plymouth, Ind.

Harold Westcott has been engaged as assistant to D. E. Fink at the Virginia Truck Experiment Station, Norfolk, Va.

F. M. Wadley, a senior at the Kansas State Agricultural College, and formerly field assistant in investigations under the directions of F. B. Milliken, at Wichita, Kans., has been reengaged to assist in the same work for the present season.

C. H. Popenoe has returned from his tour of inspection in the states in which investigations are being carried on on the investigation and control of insects as carriers of cucumber diseases.

The beet or spinach leaf-miner (*Pegomya vicina* Lint.) has been reported injurious in different portions of New York, and especially on Long Island to table beet and Swiss chard, the latter being a new food plant. Agents and correspondents will assist in investigations of this insect if they will kindly send leaves of sugar beet, table beet, spinach, and chard, infested by this insect for possible rearing of parasites. Nicotine sulphate and other reagents should be tested as repellents or deterrents to protect against the adult or fly depositing her eggs on the leafage.

